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ABSTRACT

This experiment determined relationships between Machiavellianism, locus of control, and cognitive style. One hundred fifteen subjects, 56 males and 59 females, ages 18 to 21, were selected from Interim students at Texas Lutheran College, Seguin, Texas. The Mach IV test measured Machiavellian tendencies. The I-E scale measured external attitudes. The Object Sorting Test measured categorizing style and cognitive structure by having subjects divide 50 word representations into groups. A significant intercorrelation for all subjects was found between Mach IV and I-E; no significant intercorrelation was found between Mach IV and Object Sorting, or between I-E and Object Sorting. In separating males and females on the intercorrelations, there was no significant difference. A multiple correlation among the three scores indicated some relationship between Machiavellianism, locus of control, and cognitive style. (Author)

The Relationship Between Machiavellianism, External Control, and Cognitive Style Among College Students

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The Relationship Between Machiavellianism, External Control, and Cognitive Style Among College Students

Presently, psychologists are concerned with the relationship between attitudes and thinking. Since the publication of The Prince in 1532 by Niccolo Machiavelli, man has been interested in manipulative behavior. To measure manipulative tendencies, Christie and Geis (1970) constructed a scale borrowing heavily from statements about human nature and values found in The Prince and The Discourses. The Machiavellian has traditionally been one who views and manipulates others for his own purposes. Levenson and Mahler (1975) reported that the attitudes of manipulative people seem to correlate with the extent to which they feel they cannot control their environment (p. 209). According to Solar and Bruehl (1971) one who agrees with Machiavelli's ideas will think and act toward his environment in a different manner than one who does not agree with a Machiavellian idea (p. 1079).

Recently, research has been directed towards the manner in which individuals who believe they are controlled by their environment differ in their learning processes from individuals who feel they control their own life (Rotter, 1966; Brissett and Nowicki, 1973). The degree of control one feels he has over his environment is referred to as a locus of control. According to Rotter (1966), when one views a reinforcement following some action on his own part as not being entirely dependent on his own action, it is usually viewed as a result of fate, luck,

chance, or some other unpredictable force (p. 1). This type of person is considered an external. If one feels that an occurance is related to his own behavior, then he is an internal.

Early researchers into this study of the relationship between Machiavellianism and locus of control believed that high Machs (individuals who favored Machiavellian ideas) would tend to be internal. Later research showed this to be just the opposite. Solar and Bruehl (1971) state that "one may expect externals to be high in Machiavellianism and internals to be low" (p. 1081). According to Levenson and Mahler (1975) one who is highly manipulative tends to feel that he is subject to the great complicated forces surrounding him.

The present study adds another variable to the two previous variables of Machiavellianism and locus of control. This variable, equivalence range, is one of the many facets of cognitive style. Equivalence range refers to the width and number of objects one puts into a certain category. According to Santestefano (1970) some individuals use broad categories and are less concerned with subtle differences between objects, while individuals using few categories have relatively exact standards for judging similarity. Variations lie in the degree to which an individual is impelled to act or ignore an awareness of differences in objects. According to Gardner (1953), clinical observation suggests that a preferential mode is at work in categorizing behavior. This factor does not seem to be tied solely with either intelligence or capability (p. 215).

The purpose of this experiment was to determine the relationship between attitudes and thinking, specifically, the relationship between Machiavellian statements, external locus of control, and equivalence range.

Method

Subjects

115 subjects of which 56 were male and 59 were female ranged in age from 18 to 29 years with the majority of the ages between 18 and 21, and one at 56.

Tests

1. Mach IV Scale (Christie and Geis, 1970). This Mach IV Scale was used to measure Machiavellian tendencies. In the development of the scale, 20 questions were used, 10 items were selcted in which agreement was keyed to endorsement of Machiavellian statements and 10 were keyed in the opposite direction. However, the present Mach IV test was modified in giving the subjects only 2 choices, to agree with the statement or to disagree with the statement. This modified version of the Mach IV test will be referred to as the M Mach IV.

2. Internal-External Locus of Control Scale (Rotter, 1966). The Internal-External (I-E) Control Scale is a 29 item (6 fillers) forced-choice paper and pencil test. For each item the subject is asked which of the two statements he more strongly believes in. According to Brissett and Nowicki (1973), "a subject's score indicates the number of external alternatives he selected" (p. 36).

3. Object Sorting Test-Form IA (Messick, S., Kogan, N., from Clayton, M. B. and Jackson, D. N., 1961) was used to measure equivalence range. The subjects were asked to sort the 50 given words that represent objects into groups. The data that was used from this test was the number of groups of words the subject formed.

Procedure

Six Interim classes were chosen at random. Each class was instructed to complete the three tests in a given order.

Instructions

M Mach IV Scale. Please answer each question with a check in the appropriate column. If you agree with the statement place a check next to the question in the "I agree" column. If you disagree, please check the "I disagree" column. Please answer all of the questions.

I-E Scale. This is a questionnaire to find out the way in which certain important events in our society affect different people. The instructions on the given test were the same as found on the original Internal-External Locus of Control Test (Rotter, 1966).

Object Sorting Test, Form IA. In this task we want you to put together into groups the objects listed below that seem to belong together in some way. You should do it in the way that seems most natural, most logical and most comfortable to you. If you had the actual objects before you, you could sort them into piles. You could not, of course, put any one object into more than one pile. We want you to do the same thing with the names of the objects listed below. If, after you have thought about all of the objects, a few do not seem to belong with any of the others, you may put each of these objects into a group "by itself".

Scoring

In scoring the M Mach IV Test, it was only the agreement with the ten Machiavellian statements that was measured.

In scoring the I-E Scale, it was the number of external statements that was measured.

In scoring the Object Scoring Test, it was the number of groups that the subjects made with the given objects that was measured.

The means, standard deviations, inter-correlations, and multiple correlation were obtained.

Results

The means and standard deviations of the M Mach IV, the I-E Scale, and the Object Sorting Test for all subjects, males and females, are summarized in Table 1.

Insert Table 1 about here

The test results for the M Mach IV report the mean for all subjects to be 3.57, for males 3.70, and for females 3.46. The standard deviation on this test for all subjects was 1.94, for males 2.04, and for females 1.83.

The I-E Scale revealed the mean for all subjects to be 11.10, for males 10.95, and for females 11.24. The standard deviation for all subjects was 4.00, for males 4.06, and for females 3.94.

The Object Sorting Test revealed the mean for all subjects to be 10.26, for males 10.04, and for females 10.47. The standard deviation for all subjects was 3.28, for males 3.43, and for females 3.13.

In calculating the inter-correlation for the three tests the Pearson Correlation Coefficient was used. The correlations between the M Mach IV, the I-E Scale, the Object Sorting Test, and the multiple correlation of these three are presented in Table 2.

Insert Table 2 about here

In the M Mach IV and the I-E Scale the correlation found for all subjects was .19, for males .22, and for females .16.

The M Mach IV and the Object Sorting Test correlation for all subjects was -.00, for males -.04, and for females .15.

The I-E Scale and the Object Sorting Test correlation for all subjects was .03, for males -.18, and for females .04.

The last correlation, the multiple correlation coefficient, was .19.

As indicated in Table 2, the inter-correlation on the M Mach IV and the I-E Scale for all subjects and the multiple correlation were both significant at the .05 level.

Discussion

An examination of the relationship between Machiavellianism, external control, and equivalence range revealed a significant correlation for all subjects between scores on the Mach IV scale and the I-E scale. This indicates that Ss scoring in the direction of Machiavellianism also scored in the direction of external locus of control. The correlation obtained between scores on the M-Mach IV and Object Sorting Test was not significant; nor was the correlation between scores on the I-E scale and Object Sorting Test.

A multiple correlation between the three sets of scores was significant at the .05 level, which may indicate a relationship between Machiavellianism, external control, and equivalence range. However, it is possible the correlation was significant due to the relationship between Machiavellianism and external control.

The relationship between Machiavellian tendencies and external locus of control observed in the present experiment is supportive of previous

findings. Solar and Bruehl (1971) correlated high Mach Ss with external control Ss. However, not all investigators have agreed with these findings. For example, Christie and Geis (1970) reported a correlation between high Mach Ss and internal control Ss.

A small number of investigators have measured male and female differences in Machiavellianism and locus of control. Johnson et al (1968) found significant differences between male and female measures on locus of control. Levenson and Mahler (1975) found that the relationship between Machiavellianism and external locus of control is more definite in males than females, for in females Machiavellianism seems to correlate more with low self-esteem. In the present study, no such differences were found.

The influence of cognitive style on personality has been noted by Vernon (1966) and Gardner (1953), who emphasized that personality differences are reflected in differences in categorizing behavior.

The highest level of cognitive functioning, equivalence range (Santostefano, 1970), has been related to one measure of personality, authoritarianism. Clayton and Jackson (1961) found Ss scores on an authoritarianism scale and equivalence range tests were significantly correlated. The possibility that Machiavellianism might be correlated with equivalence range follows from the similarity between Machiavellian and authoritarian attitudes. Christie and Geis (1970) stated that "...both contain an unflattering view of man and this might lead to the expectation of a slight correlation" (p. 39). However, in the present experiment, no relationship was found between scores on the Machiavellian scale and equivalence range tests.

In addition, no relationship was found between scores on the I-E test and Object Sorting Test. Finch et al (1974) reported similar results after testing the relationship between one measure of cognitive style, reflectivity-impulsivity, and locus of control in emotionally disturbed children.

Indeed, the dynamics which operate in the cognitive dimension are as yet largely unknown. Coop and Sigel (1971) found that some measures of cognitive style do not tend to correlate very highly with others, indicating that there are many differences among the measures of cognitive style. Perhaps a measure of cognitive control other than equivalence range would correlate more highly with Machiavellianism and external control.

One area which definitely requires further attention is that of the relationship between cognitive style and measures of internal vs. external control of reinforcement. Perhaps one clue to this relationship is the concept of field dependence vs. field independence. Rotter (1966) has suggested that the field determined concept is closely related to that of the internal-external variable, for both refer to the observation that people derive most of their cues either from the field or from internal sources. Witkin et al (1954) has shown that differences do exist between the cognitive approaches of field independent Ss. Gardner (1953) and Klein (1954), in addition, related one of six types of cognitive style to Witkin's dimension of field independence.

Clearly, more research is needed to determine the relationship between attitudes and thinking. Do attitudes guide the development of one's cognitive style, or do attitudes and thinking develop independently? The answers are still waiting to be discovered.

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Table 1

The Means and Standard Deviations for the M Mach IV, the I-E Scale, and the Object Sorting Test

Scores	All Subjects	Males	Females
N	115	59	56
M Mach IV			
Mean	3.57	3.70	3.46
Standard Deviation	1.94	2.04	1.83
I-E Scale			
Mean	11.10	10.95	11.24
Standard Deviation	4.00	4.06	3.94
Object Sorting			
Mean	10.26	10.04	10.47
Standard Deviation	3.28	3.43	3.13

Table 2

Correlations Among the M Mach IV, the I-E Scale, and the Object Sorting Test

Scores	All Subjects	Males	Females
N	115	59	56
M Mach IV x I-E Scale Correlation	.19*	.22	.16
M Mach IV x Object Sorting Correlation	-.00	-.04	.15
I-E Scale x Object Sorting Correlation	.03	-.18	.04
Multiple for above 3 tests Correlation	.19*		

*p < .05